

CLAIMS

1. A method for producing semiconductor wafers from a semiconductor ingot, wherein an oxygen concentration distribution in the growth axis direction is measured in the ingot state, a position at which the oxygen concentration is maximum or minimum in a range of a predetermined length is determined as a cut position according to the measurement results, the ingot is cut in a perpendicular direction to the growth axis at the cut position into blocks each having the oxygen concentrations being maximum and minimum at both ends thereof, each of the blocks is sliced, and thereby semiconductor wafers are produced.
2. The method for producing semiconductor wafers according to Claim 1, wherein in the determination of a cut position, the semiconductor ingot is divided into blocks within a range of a preliminarily set length, a position to be cut is adjusted so that the oxygen concentrations at both ends of each of the blocks are maximum and minimum, and when it is confirmed that the oxygen concentrations at both ends of each of all the blocks are maximum and minimum, the position is determined as the cut position.

3. The method for producing semiconductor wafers according to Claim 1, wherein in the determination of a cut position, the cut position is determined so that the oxygen concentrations are in a standard range and maximum and minimum at both ends of each of the blocks.

4. The method for producing semiconductor wafers according to any one of Claims 1 to 3, wherein samples are sliced from both ends of each of the blocks obtained by cutting the semiconductor ingot, oxygen concentration in a plane of each of the samples is measured, and if the oxygen concentration in a plane is in a standard range, the block is sliced, and thereby semiconductor wafers are produced.

5. The method for producing semiconductor wafers according to any one of Claims 1 to 3, wherein samples are sliced from both ends of each of the blocks obtained by cutting the semiconductor ingot, oxygen concentration in a plane of each of the samples is measured, and if the oxygen concentration in a plane is out of a standard range, another sample is further sliced from the end of the block and oxygen concentration in its

plane is measured repeatedly, and then if the oxygen concentration in its plane becomes in the standard range, the block is sliced, and thereby semiconductor wafers are produced.

6. The method for producing semiconductor wafers according to any one of Claims 1 to 5, wherein as the semiconductor ingot, a silicon single crystal ingot having a diameter 150 mm or more is used.

7. A system for determining a cut position when a semiconductor ingot is cut into blocks, at least, comprising a means for measuring an oxygen concentration distribution in the growth axis direction with respect to the ingot, a means for taking the measured oxygen concentration distribution data in a database, a means for determining a cut position so that the oxygen concentrations at both ends of a block to be obtained by the cutting are maximum and minimum, and a means for transmitting information about the determined cut position to an ingot cutting apparatus.

8. The system for determining a cut position in a semiconductor ingot according to Claim 7, wherein the means for determining a cut position

includes a means for dividing the semiconductor ingot into blocks in a range of a preliminarily set length, a means for adjusting a position to be cut so that the oxygen concentrations at both ends of each of the blocks are maximum and minimum, and a means for confirming that oxygen concentrations at both ends of the blocks are maximum and minimum.